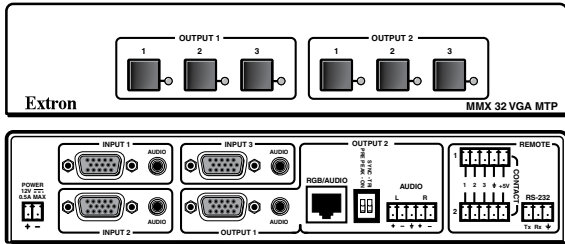


MMX 32 VGA MTP • Setup Guide

IMPORTANT:
Refer to www.extron.com for the complete user guide and installation instructions before connecting the product to the power source.



This guide provides basic instructions for an experienced installer to set up and operate the Extron® MMX 32 VGA MTP mini matrix switcher. The MMX 32 VGA MTP is a compact, three-input, two-output matrix switcher suitable for small installations or portable systems.

NOTE: For full installation and operating details, refer to the *MMX 32 VGA MTP User Guide*, available online at www.extron.com.

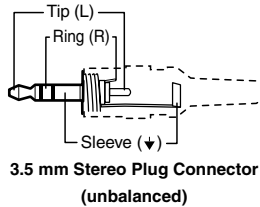
Installation

Step 1 — Mounting

Turn off or disconnect all equipment power sources and mount the MMX 32 VGA MTP as required (rack, furniture, or tabletop mounted).

Step 2 — Connect Inputs

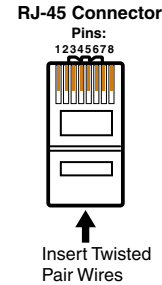
Connect up to three video sources (RGBHV, RGBS, RGB, RsGsBs, component video, S-video or composite video) to the female 15-HD connectors, inputs 1-3. Connect audio sources to the 3.5 mm stereo jacks and wire the audio connectors as shown at right.



Step 3 — Connect Outputs

Attach the applicable output cables (video, audio, and video and audio) as below:

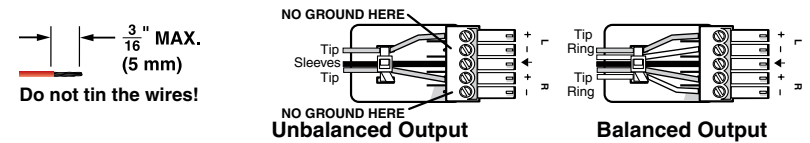
- Output 1 Video** — Connect a display device to this female 15-pin HD connector.
- Output 1 Audio** — Connect speakers to this 3.5 mm stereo jack.
- Output 2 Audio/Video (RGB)** — Connect an MTP U R series or other MTP receiver to this RJ-45 UTP connector.
Wire the connector as shown on the next page.
Connect a projector or other RGB video output device to the receiver, and connect speakers for summed (L and R) mono audio output.



Pin	568 A Wire color	568 B Wire color	Signal
1	White-green	White-orange	Red+/V. sync+
2	Green	Orange	Red-/V. sync-
3	White-orange	White-green	Mono audio+
4	Blue	Blue	Green+
5	White-blue	White-blue	Green-
6	Orange	Green	Mono audio-
7	White-brown	White-brown	Blue+/H. sync+
8	Brown	Brown	Blue-/H. sync-

NOTE: If you are using Enhanced Skew-Free™ A/V cable, use the TIA/EIA T568A standard only.

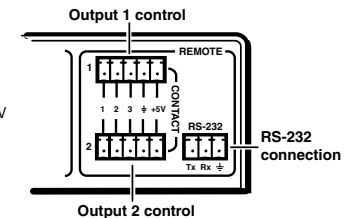
- Output 2 Audio** — Connect speakers to this 5-pole, 3.5 mm captive screw connector for balanced/unbalanced audio and wire connector for dual mono output as shown below.



CAUTION: For unbalanced audio, connect both sleeves to the center (ground) contact. DO NOT connect the sleeves to the negative (-) contacts.

Step 4 — Remote Connections

- Contact closure connectors** — Connect an Extron MMX 32 AAP or MMX 32 MAAP contact closure remote control panel to these two 5-pole captive screw connectors to provide control for outputs 1 and 2. Connect the 5 V and Gnd (-) 2-pole captive screw connector on the AAP or MAAP to either of these connectors.



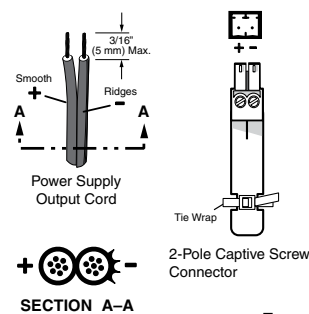
NOTE: For instructions on connecting the the MMX 32 AAP or MMX 32 MAAP to the switcher, refer to **page 22** of the *MMX 32 VGA MTP User Guide*, or refer to the *MMX 32 AAP/MAAP Installation Guide*.

- RS-232 connector** — Connect an RS-232 control module to this 3-pole captive screw connector (see image above) to allow remote control using the Extron Simple Instruction Set™ (SIS™) or the Extron Universal Switcher Control Program.

NOTE: For full SIS commands and details of the Universal Switcher Control Program, refer to the *MMX 32 VGA MTP User Guide*.

Step 5 — Power

Plug the included external 12 VDC power supply into the 2-pole captive screw connector. Wire the connector as shown at right.



Step 6 — Pre-Peaking and Sync Selection

Pre-Peaking — To compensate for signal loss over long cable runs, set the DIP switch position (up = on, down = off) as shown in the table below:

Video Format	Cable length		Signal quality at max. distance	
	Pre-Peak Off	Pre-Peak On	High	Variable
Composite, S-video, Component			800 ft (245 m)	1000 ft (300 m)
640 x 480	<300 ft (90 m)	>350 ft (105 m)	700 ft (215 m)	750 ft (230 m)
800 x 600	<300 ft (90 m)	>350 ft (105 m)	550 ft (165 m)	650 ft (200 m)
1024 x 760	<300 ft (90 m)	>350 ft (105 m)	500 ft (150 m)	600 ft (185 m)
1280 x 1024	<250 ft (75 m)	>300 ft (90 m)	350 ft (105 m)	450 ft (135 m)
1600 x 1200	<250 ft (75 m)	>300 ft (90 m)	300 ft (90 m)	450 ft (135 m)

Sync selection — To select either bi-level sync or tri-level sync on output 2, set the sync DIP switch to the desired setting (up = tri-level sync, down = bi-level sync).



Front Panel Operation

Outputs 1 and 2 — For each output press the button for the desired input (1, 2 or 3). The LED for that input lights.

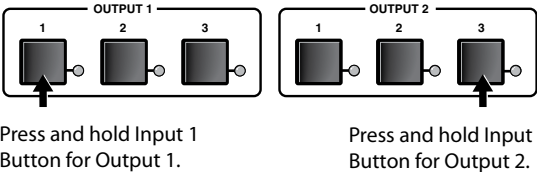
NOTE: When power is applied, the LEDs light sequentially from left to right. For first time power up, the default configuration is input 1 tied to both outputs 1 and 2, the front panel is not locked, and all states are unmuted. Input 1 LEDs for output 1 and for output 2 are both lit. If this is not a first time power up, then the LEDs for the last valid input selections light.

Front Panel Security Lock Out (Executive Mode)

Locking the front panel protects the switcher from unwanted tampering. While the switcher is locked, the user can select inputs only through a remote device. To lock or unlock the front panel, press the following buttons simultaneously and hold them for at least 3 seconds:

- For output 1 press and hold input 1 button.
- For output 2 press and hold input 3 button.

The front panel LEDs flash to indicate the front panel is locked.



System Reset

To reset the switcher to its factory settings, press and hold the input 3 button for output 1 while powering up the switcher.

Audio Switching

When you select an input, the audio and video signals from that input are routed together to the appropriate output. Audio breakaway is possible through the Extron Simple Instruction Set (SIS) or the Extron Universal Switcher Control Program. When audio breakaway is active, the front panel input LED for the audio source flashes, while the LED of the video source lights steadily.

Device Control

Output Control

Momentarily short the rear panel Remote contact pin 1, 2, or 3 for the desired output to ground to switch to that input. Use the +5 V port when controlling the output with an MMX 32 AAP or MMX 32 MAAP panel.

RS-232 Control

Software control via the RS-232 connection is possible using the Extron Simple Instruction Set (SIS) or the Extron Windows®-based control program. The RS-232 connector on the MMX 32 VGA MTP is a 3-pole captive screw connector.

MMX 32 VGA MTP • Setup Guide (Continued)

The protocol for this connector is:
• 9600 baud • 8-bit • 1 stop bit • no parity • no flow control

NOTE: For RS-232 connect transmit, receive, and ground connectors to the control system or PC.

Software Control

Installation — Insert the supplied Extron DVD into the DVD drive on a PC that is connected to the MMX. The installation window opens automatically.
Select the Software tab, scroll to the Universal Switcher control program, and click **Install**. Follow the on-screen instructions to complete installation.

Startup and use — To start up the installed software, click on the desktop icon. To use the software, refer to the *MMX 32 VGA MTP User Guide*, available online at www.extron.com, for details.

Control by SIS commands

The switcher can be controlled through the use of Extron SIS commands via the RS-232 connector. For full details on SIS commands refer to the *MMX 32 VGA MTP User Guide*.

Symbol definitions

- = Space
- ↵ = Carriage return/line feed
- ↵ = Carriage return (no line feed)
- [Esc] = "Escape key" or W
- | = Pipe (vertical bar) character. Has the same function as ↵.
- W = Has the same function as [Esc].
- [X1] = Input number 1 – 3
- [X2] = Input number (for tie) 0 – 3, 0 = disconnected
- [X3] = Output number 1 or 2
- [X9] = Mute/lock 0 = off/unlocked, 1 = on/locked
- [X19] = Controller software version number to second decimal place
- [X20] = Audio/Video mute status 0 = no mute, 2 = audio mute
1 = video mute, 3 = video and audio mute

Command/response table for SIS commands

Command	ASCII command (host to switcher)	Response (switcher to host)	Additional description
Create ties			
Tie input [X2] to output [X3], A and V	[X2]*[X3]!	Out[X3]•In[X2]•All↵	Tie input [X2] audio and video to output [X3].
Tie input [X2] RGB to output [X3]	[X2]*[X3]%	Out[X3]•In[X2]•RGB↵	Tie input [X2] RGB to output [X3].
Tie input [X2] audio to output [X3]	[X2]*[X3]\$	Out[X3]•In[X2]•Aud↵	Tie input [X2] audio to output [X3].
RGB mute			
RGB mute	[X3]*1B	Vmt[X3]*1↵	Mute RGB output [X3].
RGB unmute	[X3]*0B	Vmt[X3]*0↵	Unmute RGB output [X3].
Read RGB mute	[X3]B	[X3]↵	Show RGB mute status [X3].
Global (where [X3] is not included, global audio mute is activated).			
RGB mute all	1*B	Vmt1↵	Mute all RGB.
RGB unmute all	0*B	Vmt0↵	Unmute all RGB.
Audio mute			
Audio mute	[X3]*1Z	Amt[X3]*1↵	Mute audio output [X3].
Audio unmute	[X3]*0Z	Amt[X3]*0↵	Unmute audio output [X3].
Read audio mute	[X3]Z	[X3]↵	Show audio mute status [X3].
Global (where [X3] is not included, global audio mute is activated).			
Audio mute all	1*Z	Amt1↵	Mute all audio.
Audio unmute all	0*Z	Amt0↵	Unmute all audio.
View ties and output mute			
View RGB output tie	[X3]%	[X2]↵	Output [X3] is tied to input [X2] video.
View audio output tie	[X3]\$	[X2]↵	Output [X3] is tied to input [X2] audio.
Output mute	[X3]VM	[X20]↵	Output [X3] mute status is [X20]
Front panel security lock out			
Lock front panel	1 X/x	Exe1↵	Lock front panel.
Unlock front panel	0 X/x	Exe0↵	Unlock front panel.
Lock status	X/x	[X9]↵	Show lock status (0 = unlocked/1 = locked)

Command	ASCII command (host to switcher)	Response (switcher to host)	Additional description
Reset to factory defaults			
System reset (factory default)	$\text{Esc} \text{ZXXX} \leftarrow$	Zpx \leftarrow	Clear all ties and unmute audio and video.
Unmute RGB	$\text{Esc} \text{ZZ} \leftarrow$	Zpz \leftarrow	Unmute all.
View ties and output mute			
View RGB output tie	$\text{X3} \%$	$\text{X3} \leftarrow$	Output 2 video is tied to input 3 video.
Example:	2 %	3 \leftarrow	
View audio output tie	$\text{X3} \$$	$\text{X3} \leftarrow$	Output 1 audio is tied to input 2 audio.
Example:	1 \$	2 \leftarrow	
Output mute	$\text{X3} \text{VM}$	$\text{X20} \leftarrow$	Output mute X20 (0 = no mute, 1 = video mute, 2 = audio mute, 3 = video and audio mute).
Information requests			
Information request	I/i	$V1 * \text{X2} * A1 * \text{X2} * V2 * \text{X2} * A2 * \text{X2} * Vmt1 * \text{X9} * Amt1 * \text{X9} * Vmt2 * \text{X9} * Amt2 * \text{X9} \leftarrow$	
	i	$V1 * A1 * 1 * V2 * 2 * A2 * 2 * Vmt1 * 0 * Amt1 * 0 * Vmt2 * 0 * Amt2 * 0$	
	See below for explanation	<div><div>1</div><div>2</div><div>3</div><div>4</div></div>	
Request part number	N/n	xx-xxx-xx \leftarrow	60-565-01 = MMX 32 VGA MTP switcher.
Query firmware version	Q/q	$\text{X19} \leftarrow$	Show firmware version number.

NOTES:

- Tie commands can be made back-to-back with no spaces. Example: 1*1!02!03*03!...
- The matrix switcher supports the 2-digit numeric format (01*02).

NOTE:

1

Input 1 supplies video and audio for output 1.

2

Input 2 supplies video and audio for output 2.

3

Output 1 does not mute video or audio.

4

Output 2 does not mute video or audio.

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